REMARKS

In an Office Action dated June 24, 2010, claims 60-62 were rejected under 35 U.S.C. §102(e) as being anticipated by Luschi et al. (U.S. patent application publication no. 2003/0045288, hereinafter referred to as "Luschi"). Claims 1, 3-9, 29-34, 36, 38-39, 55-56, and 60-62 were rejected under 35 U.S.C. §103(a) as being unpatentable over Luschi in view of Kadaba et al. (U.S. patent no. 7,158,504, hereinafter referred to as "Kadaba") and further in view of Hwang et al. (U.S. patent no. 7,047,473, hereinafter referred to as "Hwang"), claims 41-42 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kadaba in view of Gopalakrishnan et al. (U.S. patent no. 6,836,666, hereinafter referred to as "Gopalakrishnan"), and claim 45 was rejected under 35 U.S.C. §103(a) as being unpatentable over Luschi in view of Kadaba. Claims 37, 40, 43, 57-59, and 63 were objected to as being dependent upon a rejected base claim but as being allowable if rewritten in independent form including the limitations of the base claim and any intervening claims. Claims 11-12, 14-21, 23-28, 46-48, and 50 were allowed. The objections and rejections are traversed and reconsideration is hereby respectfully requested.

The applicants thank the Examiner for the allowance of claims 11-12, 14-21, 23-28, 46-48, and 50.

Rejection of independent claims 60 and 62 under 35 U.S.C. §102(e) as being anticipated by Luschi

Independent claims 60-62 were rejected under 35 U.S.C. §102(e) as being anticipated by Luschi. Claims 60 and 62 provide for "receiving, by the mobile station from a base station, an uplink channel scheduling assignment, wherein the uplink channel scheduling assignment comprises a maximum power margin target; selecting, by the mobile station and based on the maximum power margin target, a modulation and coding scheme for an uplink transmission; and transmitting, by the mobile station, an indication of the selected modulation and coding scheme." These features are not taught by Luschi.

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That is, the Office Action, on pages 5-6, contended that Luschi teaches "receiving, by the mobile station from a base station, an uplink channel scheduling assignment, wherein the uplink channel scheduling assignment comprises a maximum power margin target (paragraphs 0027, 0045-0046, and 0054-0055)." Paragraph 0027 does not teach any contents of uplink or downlink signaling. Paragraphs 0045-0046 concerns scheduling users for downlink transmissions and teach a network assigning and conveying, to users, modulation and coding (AMC) rates, channelization codes, and H-ARQ parameters for downlink transmissions. Paragraphs 0054-0055 merely teach a feedback of downlink channel quality measurements by user equipment (UEs) and the network instructing the UEs on the rate of feeding back of such reports. Nothing here, nor anywhere else in Luschi, teaches receiving, by a UE from a base station (BS), an uplink channel scheduling assignment that includes *a maximum power margin target.*

In addition, the Office Action, on pages 5-6, contended that paragraph 0046 of Luschi teaches selecting, by the mobile station (MS) and based on the maximum power margin target, a modulation and coding scheme for an uplink transmission, and transmitting, by the MS, an indication of the selected modulation and coding scheme. First, as Luschi does not teach providing an MS with a maximum power margin target, Luschi cannot be construed to teach an MS selecting a modulation and coding scheme for an uplink transmission based on the provided maximum power margin target. Second, as noted above, paragraph 0046 of Luschi merely teaches scheduling by a network, and more particularly a network assigning and conveying, to users, modulation and coding (AMC) rates, channelization codes, and H-ARQ parameters for downlink transmissions. Nothing here, nor anywhere else in Luschi, teaches any selecting, by an MS, of a modulation and coding scheme for an uplink transmission, let alone a transmitting, by the MS, of an indication of the modulation and coding scheme selected by the MS.

Therefore, Luschi does not teach the features of claims 60 and 62 of "receiving, by the mobile station from a base station, an uplink channel scheduling assignment, wherein the uplink channel scheduling assignment comprises a maximum power margin target; selecting, by the mobile station and based on the maximum power margin target, a modulation and coding scheme for an uplink transmission; and transmitting, by the mobile station, an indication of the selected modulation and coding scheme."

Accordingly, the applicants respectfully submit that claims 60 and 62 are not anticipated by Luschi and respectfully request that claims 60 and 62 may now be passed to allowance.

Since claim 61 depends upon allowable claim 60 and claim 63 depends upon allowable claim 62, the applicants respectfully request that claims 61 and 63 also may be passed to allowance.

Rejection of independent claims 1, 29, 60, and 62 under 35 U.S.C. §103(a) as being unpatentable over Luschi in view of Kadaba and further in view of Hwang

Claims 1, 3-9, 29-34, 36, 38-39, 55-56, and 60-62 were rejected under under 35 U.S.C. §103(a) as being unpatentable over Luschi in view of Kadaba and further in view of Hwang. No specific rejection was given of claims 60 and 62 under 35 U.S.C. §103(a) and the applicants assume that the rejection of these claims under 35 U.S.C. §103(a) was made in error. Nevertheless, as detailed above, the applicants believe that Luschi does not teach the features of claims 60 and 62 and the applicants believe that these features are not taught by Kadaba or Hwang, either, and again respectfully request that claims 60 and 62, and respective dependent claims 61 and 63, may now be passed to allowance.

With respect to claims 1 and 29, the applicants contend that none of Luschi, Kadaba, or Hwang teach all of the features of these claims. For example, claim 1 includes the feature of "transmitting the uplink channel scheduling assignment to the mobile station, wherein the uplink channel scheduling assignment comprises a maximum traffic channel to control channel power ratio that the mobile station is allowed to use in a subsequent reverse link transmission," and claim 29 includes the feature of "selecting, by the mobile station, a modulation and coding scheme based on the received interference information." These features are not taught by any of Luschi, Kadaba, or Hwang.

In rejecting claim 1, the Office Action, on pages 7-9, acknowledged that neither Luschi nor Kadaba teaches the feature of "transmitting the uplink channel scheduling assignment to the mobile station, wherein the uplink channel scheduling assignment comprises a maximum traffic channel to control channel power ratio that the mobile

station is allowed to use in a subsequent reverse link transmission," but contended that this is taught by Hwang (col. 8, lines 53-67; col. 9, lines 1-5 and 50-58). The applicants respectfully disagree.

Hwang teaches a receiver feeding back control information to a transmitter that reflects a quality of signals received by the receiver (col. 8, lines 53-67, and col. 9, lines 1-5). Column 8, lines 53-67, of Hwang merely teaches a receiver sending ACKs and NAKs to a transmitter, which NAKs include information reflecting a quality of received signals. Column 9, lines 50-58, and column 10, lines 1-34, of Hwang merely elaborate on this teaching, providing that the NAK will include the received signal quality information (or a command to increase transmission power) only if the received signal quality is poor (that is, when the SIR of the received signal is less than the threshold) (as opposed to other reasons that a received signal might be erroneously received).

By contrast to Hwang, claim 1 teaches providing an MS (analogized to the transmitter of Hwang) with a maximum traffic channel to control channel power ratio, rather than commanding a specific power level change by an MS. By providing the MS with a maximum traffic channel to control channel power ratio, the MS is able to select a scheduling scheme to use with respect to an uplink transmission that can achieve a desired quality of service (QoS). That is, the QoS is a function of, among other factors, a modulation and coding scheme and a transmit power level. By knowing a maximum traffic channel to control channel power ratio available at one or more serving base stations (BSs), the scheduling function can be distributed to the MS, which then can select one of many alternative, appropriate modulation and coding schemes that, given the power constraints, can achieve the desired QoS while staying within the power constraint. Conveying a maximum traffic channel to control channel power ratio to the transmitter would make little sense in Hwang, since such a ratio does not indicate a quality of the received signal nor provide the transmitter with an instruction of how to adjust a next transmission.

Therefore, the applicants respectfully submit that none of Luschi, Kadaba, or Hwang teaches the features of claim 1 of transmitting an uplink channel scheduling assignment to a selected MS, wherein the uplink channel scheduling assignment includes

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a maximum traffic channel to control channel power ratio that the MS is allowed to use in a subsequent transmission. Accordingly, the applicants respectfully request that claim 1 may now be passed to allowance.

In rejecting claim 29, the Office Action, on pages 10-11, contended that Luschi teaches, in paragraph 0046, the feature of claim 29 of selecting, by an MS, a modulation and coding scheme. As noted above, paragraph 0046 of Luschi merely teaches conveyance, by a network to an MS, of a network-determined downlink scheduling assignment, which downlink scheduling assignment includes modulation and coding rates, channelization codes, and H-ARQ parameters for downlink transmissions. That is, paragraph 0046 of Luschi teaches, at best, the *network* selecting a modulation and coding scheme for an MS and then informing the MS of the selected scheme. The MS merely uses the dictated modulation and coding scheme; the MS does not make any selection of a modulation and coding scheme, let alone make a selection based on interference information received from a BS. Nowhere does Luschi teach any selecting, *by the MS*, of a modulation and coding scheme. Such a feature is not taught by Kadaba or Hwang, either.

Therefore, the applicants respectfully submit that none of Luschi, Kadaba, or Hwang teaches the feature of claim 29 of "selecting, by the mobile station, a modulation and coding scheme based on the received interference information" and respectfully request that claim 29 may now be passed to allowance.

Since claims 2-10 and 55-59 depend upon allowable claim 1 and claims 30-34 and 36-40 depend upon allowable claim 29, the applicants respectfully request that claims 2-10, 30-34, 36-40, and 55-59 also may be passed to allowance.

Rejection of independent claims 41 under 35 U.S.C. §103(a) as being unpatentable over Kadaba in view of Golpalakrishnan

Claims 41-42 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kadaba in view of Gopalakrishnan. Claim 41 includes features of "storing, by the base station, traffic data from the mobile station in a traffic data buffer; ... and when the reverse link signal quality metric [determined by the base station] compares unfavorably

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with the threshold, flushing the traffic data buffer." These features are not taught by Kadaba or Gopalakrishnan.

That is, in rejecting claim 41, the Office Action, on pages 14-15, contended that Kadaba teaches a method for controlling communications with an MS by a BS that includes steps of storing, by the BS, traffic data from the MS in a traffic data buffer (col. 4, line 56, to col. 5, line 17), determining a link quality metric at the BS (col. 5, lines 18-51), and flushing the traffic data buffer (col. 12, line 14, to col. 13, line 7). The Examiner acknowledged that Kadaba does not teach comparing a link quality metric to a threshold and the link quality metric comparing unfavorably with the threshold; however, the Examiner contended that these features are taught by Gopalakrishnan (col. 4, line 43, to col. 5, line 29; col. 6, lines 24-43).

Column 5, lines 18-51, of Kadaba teaches an MS reporting downlink pilot strength back to a BS. Column 12, line 14, to column 13, line 7, of Kadaba teaches a BS flushing its traffic data buffer in response to receipt of an instruction from an MS to do so. Nothing here teaches a flushing based on an uplink signal quality metric determined by the BS. Gopalakrishnan, in the sections cited by the Examiner, merely teaches a BS measuring a total received signal power from all MSs serviced by the BS, to determine if the BS has any received signal power margin to schedule an additional MS. This measurement has nothing to do with any flushing of a buffer but instead concerns whether additional MSs may be admitted. Neither Kadaba nor Gopalakrishnan, even when combined and regardless of the propriety of doing so, teach or suggest a BS self-determining to flush a buffer based on measurements at the BS.

Therefore, neither Kadaba nor Gopalakrishnan teaches the features of claim 41 of a BS storing traffic data from the mobile station in a traffic data buffer and when an uplink signal quality metric, determined at the BS, compares unfavorably with a threshold, flushing the traffic data buffer. Accordingly, the applicants respectfully request that claim 41 may now be passed to allowance.

Since claims 42-43 depend upon allowable claim 41, the applicants respectfully request that claims 42-43 also may be passed to allowance.

Rejection of independent claim 45 under 35 U.S.C. §103(a) as being unpatentable over Luschi in view of Kadaba

Claim 45 was rejected under 35 U.S.C. §103(a) as being unpatentable over Luschi in view of Kadaba. Claim 45 includes features of "transmitting, by the base station, first control data to the mobile station on a downlink control channel; upon transmitting the first control data, starting, by the base station, a timer; and when a predetermined period of time expires prior to receiving second control data from the mobile station on an uplink control channel, flushing the traffic data buffer." These features are not taught by Luschi or Kadaba.

In rejecting claim 45, the Office Action, on page 16, acknowledged that Luschi does not teach transmitting, by the BS, first control data to the MS on a downlink control channel, upon transmitting the first control data, starting, by the BS, a timer, and when a predetermined period of time expires prior to receiving second control data from the MS on an uplink control channel, flushing the traffic data buffer. However, the Office Action contended that these features are taught by Kadaba (col. 10, line 27, to col. 11, line 13; col. 12, line 14, to col. 13, line 7).

Column 10, line 27, to column 11, line 13, of Kadaba teaches an MS that transmits traffic data, sets a timer, waits for an acknowledgment, and re-transmits old data (if no acknowledgement) or transmits new data (if an acknowledgement is received). That is, this section of Kadaba teaches an MS and teaches actions on a transmitting side of a data transmission. By contrast, the teachings of claim 45 concern a BS and further concern a receiving side of a data transmission, that is, a BS that stores traffic data received from an MS in a traffic data buffer, sets a timer, waits for control data from the MS, and then flushes the buffer. Column 12, line 14, to column 13, line 7, of Kadaba teaches a BS flushing a buffer in response to receiving a command to do so from the MS, not due to an expiration of a timer at the BS. That is, this section of Kadaba teaches a receiving device that requires a buffer flush instruction from the transmitting device, that is, the MS. The teachings of claim 45 do not.

Therefore, neither Luschi nor Kadaba, individually or in combination, teaches the features of claim 45 of storing, by the BS, traffic data from an MS in a traffic data buffer, starting, by the BS, a timer upon transmitting control data to the MS, and flushing the traffic data buffer when the timer expires prior to receiving control data from the MS. Accordingly, the applicants respectfully request that claim 45 may now be passed to allowance.

As the applicants have overcome all substantive rejections and objections given by the Examiner and have complied with all requests properly presented by the Examiner, the applicants contend that this Amendment, with the above discussion, overcomes the Examiner's objections to and rejections of the pending claims. Therefore, the applicants respectfully solicit allowance of the application. If the Examiner is of the opinion that any issues regarding the status of the claims remain after this response, the Examiner is invited to contact the undersigned representative to expedite resolution of the matter. Furthermore, please charge any additional fees (including any extension of time fees), if any are due, or credit overpayment to Deposit Account No. 505278.

Respectfully submitted,
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